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CLAIMS

1.   A method of operating a communication system comprising a primary station (10) and a plurality of secondary stations (12a,12b,12c), the method comprising:

the primary station (10) exchanging radio messages (38) with the secondary stations over a number of radio channels (14a,14b) in accordance with a predetermined protocol (36),

monitoring the capacity of said channels; and

controlling the channel used by at least one enquiring secondary station (12a) at least in part in dependence on said monitored capacity.

2.   A method according to claim 1, wherein the monitoring of channel capacity comprises:

comparing the number of secondary stations (12a,12b,12c) registered per channel (14a,14b) against a predetermined threshold, and

blocking registration for those channels having a number of secondary stations registered per channel equal to or above the predetermined threshold.

3.   A method according to claim 2, wherein the monitored channel (14b) having the lowest number of registered secondary stations (12c) is used to register an enquiring secondary station.

4.   A method according to claim 1, wherein beacon signals (40) are transmitted on each radio channel (14a,14b), and wherein the capacity of each channel is monitored by monitoring the number of time slots (42) available per frame time for that channel.

5.   A method according to claim 4, wherein the enquiring secondary station requesting guaranteed time slots (46) is allocated a radio channel having available unused timeslots for said request.

6.   A communication system comprising a primary station (10) and a plurality of secondary stations (12a,12b,12c), wherein the primary station (10) has means (29) for exchanging radio messages (38) with the secondary stations over a number of radio channels in accordance with a predetermined

5   protocol, means (20,27) for monitoring the capacity of said channels and means (20,25,27) for controlling the channel used by at least one enquiring secondary station at least in part in dependence on said monitored capacity.

7.   A primary station (10) for use in a communications system

10   comprising a plurality of secondary stations, wherein the primary station has means (29) for exchanging radio messages (38) with the secondary stations over a number of radio channels in accordance with a predetermined protocol, means (20,27) for monitoring the capacity of said channels and means (20,25,27) for controlling the channel used by at least one enquiring secondary

15   station at least in part in dependence on said monitored capacity.

8.   A primary station as claimed in claim 7, wherein the means for exchanging radio messages comprises a communication module (29) having a plurality of transceivers (29a,29b,29c) coupled (35,27) to said monitoring and

20   control means (20), and wherein each transceiver operates a single radio channel.

9.   A primary station as claimed in claim 7 or claim 8, wherein the monitoring means (20) monitors the available timeslots (42) between periodic

25   beacon signals (40) transmitted by transceivers on respective channels, and wherein the control means (20) allocates a radio channel having available unused timeslots to the at least one enquiring secondary station.

10.   A primary station (10) as claimed in claim 7, wherein the

30   predetermined protocol is the ZigBee radio protocol.

11.   A computer program (25) comprising code that when executed on a programmable device forming a primary station causes it to carry out the steps of claim 1.

5   12.   A computer program (25) comprising code that when executed on a computer linked to a primary station causes it to carry out the steps of claim 1.

13.   A computer program (25) on a carrier (24) carrying code that
10   when executed on a programmable device forming a primary station causes it to carry out the steps of claim 1.

14.   A computer program (25) on a carrier 24 carrying code that when executed on a computer linked to a primary station causes it to carry out the
15   steps of claim 1.